

## BIOGRAPHICAL SKETCH

**NAME:** Hugh A. Barton

**POSITION TITLE:** Toxicologist

### EDUCATION/TRAINING

Institution	Degree	Year	Field of Study
Massachusetts Institute of Technology	B.S.	1982	Life Sciences
Massachusetts Institute of Technology	Ph.D.	1988	Toxicology

### PROFESSIONAL EXPERIENCE:

1999-present US EPA, ORD/NHEERL/ETD/PKB, RTP, NC  
1995-1999 KS Crump Group, RTP, NC  
1991-1995 ManTech Environmental, WPAFB, OH  
1990-1993 Boston University School of Public Health (Adjunct), Boston, MA  
1989-1991 ENSR Consulting and Engineering, Acton, MA

### PROFESSIONAL SOCIETIES:

Society of Toxicology  
American Chemical Society  
American Association for the Advancement of Science

### SELECTED AWARDS AND HONORS:

Best Paper, Society of Risk Analysis, 2002  
Best Paper, Risk Assessment Specialty Section of SOT, 2001  
Best Paper, Risk Assessment Specialty Section of SOT, 2000

### INVITED LECTURES/SYMPOSIA:

Children's Supplemental Cancer Guidelines and Life-stage Risk. US EPA Regional Risk Assessors Conference, Stone Mountain, GA. April 29, 2003.  
The PBPK Approach in Species, Dose, and Route Extrapolation. Pharmacokinetics Continuing Education course, Society of Toxicology. Salt Lake City, UT. March 9, 2003.  
Endocrine Active Substances and Dose-Response for Individuals and Populations. Symposium on Endocrine Active Substances. Sponsored by SCOPE/IUPAC Yokohama, Japan. Nov 17 - 21, 2002.  
Linking Dose, Mode of Action, and Response in a Human Health Risk Assessment Context. Physiologically-Based Pharmacokinetic (PBPK) Approaches to Human Health Risk Assessment ORD/OPPTS Scientist-to-Scientist Meeting. Arlington, VA. Nov. 6-7, 2002  
Predictive Simulation Modeling for Antiandrogen Impacts on Rodent Prostate. Symposium on Biostatistical and Biomathematical Problems in Environmental Health. Sponsored by NIEHS, University of North Carolina, Department of Biostatistics and Center for Environmental Health and Susceptibility. Research Triangle Park, NC. June 7, 2002.  
Modeling Endocrine Active Compounds Across Life Stages. Symposium on The Potential for Biological Modeling to Improve Children's Risk Assessment, Society of Toxicology, March 2002, Nashville, TN (Abstract #268, The Toxicologist)  
Predictive Modeling in Neurotoxicology. Lecture in Advanced Toxicology course for Curriculum in Toxicology at University of North Carolina. Nov. 14, 2001.  
Linking Quantitative Modeling in a Human Health Risk Assessment Context. NERL/NHEERL Exposure to Dose Modeling Workshop. July 10-11, 2001, Research Triangle Park, NC. Meeting Co-Chair.  
Modeling tools for extrapolation (August 10, 1999) Synergy Workshop on Interspecies Extrapolation, US EPA/NHEERL, Research Triangle Park, NC.

**ASSISTANCE/LEADERSHIP PROVIDED TO THE SCIENTIFIC COMMUNITY:**

Biological Modeling Specialty Section, Society of Toxicology. Past-President 2003, President 2002, Vice-President 2001

ILSI-HESI Technical Committee on Agricultural Chemical Safety Assessment. Co-Chair of ADME Task Force. 2002 - 2003.

Cumulative risk assessment: getting from toxicology to quantitative analysis. Chaired & Organized Workshop at Society of Toxicology Annual Meeting, March 2003, Salt Lake City, UT.

SCOPE-IUPAC (Scientific Committee on Problems of the Environment, International Council for Science - International Union of Pure and Applied Chemistry) committee on Environmental Implications of Endocrine Active Substances: Present State of the Art and Future Research Needs. Yokohama, Japan, Nov 2002

Workshop to Develop a Framework for Assessing Risks to Children. Sponsored by International Life Sciences Institute (ILSI) Risk Sciences Institute (RSI). July 30 - Aug 2, 2001. Stowe, VT.

Working Group on Direct Dosing of Neonatal Animals in Toxicity Testing, Sponsored by International Life Sciences Institute (ILSI), Sept. 2000 - Sept. 2002, Washington, DC.

Endocrine Disruptors Low Dose Peer Review, Sponsored by US EPA and NIEHS/NTP, Oct 10 - 12, 2000, Research Triangle Park, NC.

**ASSISTANCE/LEADERSHIP PROVIDED TO THE AGENCY:**

Chair, NHEERL Human Health Research Implementation Steering Committee (NHEERL 2001-2003)

Lead author for Draft Supplemental Guidance for Children's Cancer Risk (ORD 2003)

Pharmacokinetics and interspecies extrapolation for perfluorooctanoic acid (OPPT 2003)

Advice on pharmacokinetics and age-dependencies (OPP 2002-2003)

Evaluation of isopropanol/acetone PBPK model (OPPT 2002-2003)

Evaluation of 1,1,2-trichloroethane PBPK model for Hazard Air Pollutants route-to-route extrapolation for Enforceable Consent Agreement (OPPT/NCEA 2002-2003)

PBPK modeling for route extrapolation for methanol for IRIS dose-response assessment (NCEA 2002-2003)

Evaluated industry submitted pharmacokinetic studies for oxygenate fuel additives. (OAR/OTAQ 2000-2001)

**PUBLICATIONS (From January 1, 1998 to present, out of a total of 16 publications):**

1. Teeguarden JG and Barton HA (2003) Accounting for Serum Binding Proteins in Extrapolations among Chemicals and Across Life-stages and Species for Endocrine Active Compounds. *Risk Anal.* In Press.
2. Clewell, H.J. III, Andersen M.E., and Barton H.A. (2002) A Consistent Approach for the Application of Pharmacokinetic Modeling in Cancer and Noncancer Risk Assessment. *Environ. Health Perspect.* 110, 85-93
3. Clewell, H.J. III, Barton H.A., Maull E.A., and Andersen M.E. (2001) Under What Conditions is Trichloroethylene Likely to be a Carcinogen in Humans? *Human Ecol. Risk Assess.* 7, 687-716.
4. Barton, H.A., Deisinger, P.J., English, J.C., Gearhart, J.M., Faber, W.D., Tyler, T.R., Banton, M.I., Teeguarden, J., and Andersen, M.E. (2000) Family approach for estimating reference concentrations/doses for series of related organic chemicals. *Toxicol. Sci.* 54, 251-261.
5. Barton, H.A. and Clewell, H.J., III. (2000) Evaluating Noncancer Effects of Trichloroethylene: Dosimetry, Mode of Action and Risk Assessment. *Environ. Health Perspect.*, 108, Suppl 2, 335-342.
6. Andersen, M.E. and Barton, H.A. (1999) Biological regulation of receptor-hormone complex concentrations in relation to dose response assessments for endocrine active compounds. *Toxicol. Sci.* 48, 38-50.
7. Barton, H.A., Andersen, M.E., Clewell, H.J. (1998) Harmonization of Cancer and Noncancer Risk Assessment Methods. *Human Ecol. Risk Assess.* 4, 75-115.
8. Barton, H.A., Andersen, M.E., and Allen, B.C. (1998) Dose Response Characteristics of Uterine Responses in Rats Exposed to Estrogen Agonists. *Reg. Toxicol. Pharmacol.* 28, 133-149.
9. Barton, H.A. and Andersen, M.E. (1998) Endocrine Active Compounds: From Biology to Dose Response Assessment. *Crit. Rev. Toxicol.* 28, 363-423.
10. Barton, H.A. and Andersen, M.E. (1998) A Model for Pharmacokinetics and Physiological Feedback Among Hormones of the Testicular-Pituitary Axis in Adult Male Rats: A Framework for Evaluating Effects of Endocrine Active Compounds. *Toxicol. Sci.* 45, 174-187.